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**TITLE: Rheologically stable aq. paste or ink compsn. -
comprising powder or flakes in aq. medium contg.
associative thickener, used e.g. as dielectric paste or
printing ink**

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BASIC-ABSTRACT:

A water-based paste or ink compsn. (I) comprises: (A) at least one powdered or flaked material; and (B) a transient carrier vehicle consisting of an aq. medium contg. at least one associative thickener (II) (i.e. a polymer which forms aggregates or micelles in aq. media and shows shear thinning behaviour in

aq. media). The amts. of (A), (B) and any additives in (I) are such that (I) has appropriate viscosity to be dispensed or printed. (B) is removable from (I) by heating or pyrolysis to leave (almost) no residues.

Also claimed is a method for forming a coating, film, joint, adhesive bond or decoration from (A), by using (B) as carrier for (A) and removing (B) by heating or pyrolysis.

USE - (I) is specifically (i) a thick film conductor paste contg. a mixt., of copper, nickel, a noble metal or their alloys and a glass binder as (A), (ii) a thick film resistor paste contg. a mixt. of a conductive material and a glass binder as (A), (iii) a dielectric paste contg. a ceramic dielectric material as (A), (iv) a die attach compsn. contg. a mixt. of a metal and a glass frit as (A) or (v) a ceramic printing ink contg. a coloured ceramic pigment and glass binder, or coloured glass, as (A) (all claimed).

Also claimed are an electronic circuit produced using (I), an electronic component mounted on a circuit board using (I), a glass or ceramic article decorated using (I), an item joined or sealed using (I) and a protective coating or layer formed on a surface using (I).

ADVANTAGE - (B) is a simple, water-based system which is free of volatile organic cpds., is rheologically stable (e.g. does not give any adverse reactions with glass frits such as boron gelling) and has good burn out characteristics. (I) shear thins (i.e. has high viscosity at low shear and low viscosity at high shear, and has rheology appropriate for printing or dispensing by the required method (e.g. screen printing, stencilling, K bar application or using a syringe).

CHOSEN-DRAWING: Dwg.0/0

TITLE-TERMS: RHEOLOGICAL STABILISED AQUEOUS PASTE INK COMPOSITION
COMPRISE

POWDER FLAKE AQUEOUS MEDIUM CONTAIN ASSOCIATE THICKEN DIELECTRIC
PASTE PRINT INK

PCT

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*Before the expiration of the time limit for amending the
claims and to be republished in the event of the receipt of
amendments.*

(54) Title: PASTE OR PRINTABLE INK COMPOSITIONS

(57) Abstract

A water-based paste or ink composition which comprises at least one powdered or flaked material and a transient carrier vehicle which is an aqueous medium including therein at least one associative thickener (as hereinbefore defined), the amounts of the powdered or flaked material, the vehicle and any optional additives included in the composition being chosen so that the composition has an appropriate rheology for it to be dispensed or printed and the transient carrier vehicle being removable from the composition by heating or pyrolysis to leave no or substantially no residues.